

WHAT IS CLAIMED IS:

1. A vehicle occupant sensing system for detecting a condition of a vehicle seat assembly, wherein the vehicle seat assembly has a lower seat cushion on which an occupant can apply an axial load directed generally through the lower seat cushion, and a seat pan that supports the lower seat cushion, said vehicle occupant sensing system comprising:

a tray adapted to be disposed between the seat pan and the cushion, said tray including a plurality of pedestals formed thereon; and

a plurality of sensor assemblies operatively disposed between the lower seat cushion and said tray, each of said sensor assemblies defining a force responsive axis, said sensor assemblies responsive to the condition of the vehicle seat assembly, at least some of said sensor assemblies supported by corresponding ones of said plurality of pedestals such that said force responsive axes of said sensor assemblies are substantially aligned with the axial load applied by the occupant.

2. A vehicle occupant sensing system as set forth in claim 1, wherein said tray includes a forward portion that corresponds to a forward portion of the seat pan and wherein at least some of said pedestals are formed on said forward portion of said tray.

3. A vehicle occupant sensing system as set forth in claim 2, wherein said tray further includes a rear portion that corresponds to a rear portion of the seat pan, wherein said forward portion is disposed at a positive angle relative to a horizontal plane of said rear portion of said tray.

4. A vehicle seat assembly as set forth in claim 1, wherein said tray has a main body portion that corresponds with a main body of the seat pan, and at least one bolster formed spaced from said main body portion of said tray so as to correspond with at least one bolster of said seat pan.

5. A vehicle occupant sensing system as set forth in claim 4, wherein at least one of said plurality of pedestals is formed on said at least one bolster.

6. A vehicle occupant sensing system as set forth in claim 1, wherein said sensor assemblies each comprise a housing including a base and an upper slide member supported for movement toward and away from said base, wherein movement of said upper slide member defines the force responsive axis.

7. A vehicle occupant sensing system as set forth in claim 1, wherein said pedestals each include an annular attachment tab to attach said sensor assemblies thereto.

8. A vehicle occupant sensing system as set forth in claim 1 further comprising a circuit carrier supported by said tray, said circuit carrier including a plurality of slits corresponding to said pedestals.

9. A vehicle occupant sensing system as set forth in claim 1, wherein said plurality of pedestals each defines a top surface spaced away from a main body portion of said tray, said top surfaces supporting at least one of said plurality of sensor assemblies.

10. A vehicle seat assembly comprising:

a seat back;

a lower seat cushion defining an upper surface and a lower surface, wherein an occupant can apply an axial load directed generally through said lower seat cushion;

a seat pan that supports said lower seat cushion;

a tray adapted to be disposed between the seat pan and the lower seat cushion, said tray including a plurality of pedestals formed thereon; and

a plurality of sensor assemblies operatively disposed between the lower seat cushion and said tray, each of said sensor assemblies defining a force responsive axis, said sensor assemblies responsive to a condition of the vehicle seat assembly, at least some of said sensor assemblies supported by corresponding ones of said plurality of pedestals such that said force responsive axes of said sensor assemblies are substantially aligned with the axial load applied by the occupant.

11. A vehicle seat assembly as set forth in claim 10, wherein said tray includes a forward portion that corresponds to a forward portion of said seat pan, and wherein at least some of said pedestals are formed on said forward portion of said tray.

12. A vehicle occupant sensing system as set forth in claim 11, wherein said tray further includes a rear portion that corresponds to a rear portion of said seat pan, wherein said forward portion is disposed at a positive angle relative to horizontal plane of said rear portion of said tray.

13. A vehicle seat assembly as set forth in claim 10, wherein said tray has a main body portion that corresponds with a main body of said seat pan, and at least one bolster

formed spaced from said main body portion of said tray so as to correspond with at least one bolster of said seat pan.

14. A vehicle seat assembly as set forth in claim 13, wherein at least one of said plurality of pedestals is formed on said at least one bolster.

15. A vehicle seat assembly as set forth in claim 10, wherein said sensor assemblies each comprise a housing including a base and an upper slide member supported for movement toward and away from said base, wherein movement of said upper slide member defines the force responsive axis.

16. A vehicle occupant sensing system as set forth in claim 10, wherein said pedestals each include an annular attachment tab to attach said sensor assemblies thereto.

17. A vehicle occupant sensing system as set forth in claim 10 further comprising a circuit carrier supported by said tray, said circuit carrier including a plurality of slits corresponding to said pedestals.

18. A vehicle occupant sensing system as set forth in claim 10, wherein said plurality of pedestals each defines a top surface spaced away from a main body portion of said tray, said top surfaces supporting at least one of said plurality of sensor assemblies.